

AMENDMENTS TO THE CLAIMS

This listing will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A nail and screw system (1) for improving the fixation of proximal fractures of the humerus, including comprising:

at least a one cannulated humeral nail (10) to be inserted in a humeral shaft (9), having at least a proximal transversal hole (6) comprising a couple of opposite holes (6', 6'') on opposite a wall of the cannulated nail (10) for the passage of a corresponding locking screws (3), said locking screw (3) having a screw head (4), a screw body (34) and an outside thread diameter smaller than the diameter of said at least one transversal hole (6); ~~characterised in that~~

wherein said transversal hole (6) has an internal partially threaded portion (28), which is a portion of nut screw or a knurl portion, and

wherein the threaded portion of the proximal hole of the nail engages the threaded portion of the locking screw at least in a crest to crest fashion.

2. (Currently amended) The nail and screw system according to claim 1, ~~characterised in that~~ wherein the hole (6) closer to the screw head (4) includes said partially threaded portion (28).

3. (Currently amended) The nail and screw system according to claim 1, wherein said screw body (34) is fully threaded with a constant pitch (p) and comprises threads (35) having a triangular cross-section profile.

4. (Currently amended) The nail and screw system according to claim 3, wherein said triangular cross-section profile has cusp or acute apex angles of 60°.

5. (Currently amended) The nail and screw system according to claim 1, further including at least an intermediate plate element (15) inserted between said screw head (4) and the bone cortex surface (14) so that the head (4) is abutting against said plate (15).

6. (Currently amended) The nail and screw system according to claim 5, wherein said intermediate plate element (15) includes a slightly curved surface (16) to adhere substantially to the bone cortex surface (14).

7. (Currently amended) The nail and screw system according to claim 5, wherein said intermediate plate element (15) comprises a couple of elongated arm portions (18, 19) that are inserted in an astride position on the screw body before the final fastening of the screw head (4).

8. (Currently amended) The nail and screw system according to claim 7, wherein said elongated arm portions (18, 19) present rounded ends.

9. (Currently amended) The nail and screw system according to claim 7, wherein said intermediate plate element (15) comprises an enlarged portion (21) having at least a seat (22) for embracing at least a fragment fixation pin (23).

10. (Currently amended) The nail and screw system according to claim 9, wherein said seat (22) is at least a hole (22) formed in said enlarged portion (21) of the intermediate plate element (15).

11. (Currently amended) The nail and screw system according to claim 9, wherein said seat (22) is at least a hole (24) formed in at least one of said elongated arm portions (18, 19).

12. (Currently amended) The nail and screw system according to claim 5, wherein said intermediate plate element (15) has a substantially rounded profile.

13. (Currently amended) The nail and screw system according to claim 9, wherein said intermediate plate element (45) is an open washer integrally formed with a flange portion (24).

14. (Currently amended) The nail and screw system according to claim 5, wherein a second intermediate plate element (45') is inserted between the screw head (4) of a second locking screw (3), passing through a second proximal hole (6) of the nail (10), and the bone cortex surface (14).

15. (Currently amended) The nail and screw system according to claim 14, wherein said second intermediate plate element (45') is larger than a first intermediate plate element (45).

16. (Currently amended) The nail and screw system according to claim 14, wherein said second intermediate plate element (45) comprises a couple of elongated arm portions (48, 49) that are inserted in an astride position on the corresponding screw body.